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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/059,533	04/13/1998	JERROLD HAUCK	042390.P5379	8654

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EXAMINER
TORRES, JOSEPH D

ART UNIT	PAPER NUMBER
2133	

DATE MAILED: 07/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

Application No.	Applicant(s)
09/059,533	HAUCK ET AL.
Examiner	Art Unit
Joseph D. Torres	2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *19 March 2002* .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-11* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-11* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *4/13/1998* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☒ Interview Summary (PTO-413) Paper No(s). *14* .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

In view of the Appeal Brief filed on March 19, 2002, PROSECUTION IS HEREBY

REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the

following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply

under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied

by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130,

1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4-6 and 8-11 are rejected under 35 U.S.C. 102(b) as being

anticipated by Lilja, David J. et al. (US 4888684 A, hereafter referred to as Lilja).

Lilja anticipates claim 1.

Lilja teaches a bus protocol system for inter-processor communications. Lilja teaches

that a packet for use in the bus protocol system consists of fifteen (15) words (col. 4,

lines 8-11, Lilja) of data and one word of header (col. 10, lines 14-46, Lilja) for a total of

sixteen-words. The Examiner would like to point out that the Applicant teaches that a

primary packet is a packet consisting of various subactions (or words, since a word and

a subaction are synonymously used to mean a subdivision of a packet); hence the

packets in Lilja are primary packets, since the packets in Lilja consist of 16-words (i.e.

16 subactions). Figure 1 of Lilja (e.g., see D BUS in Figure 1) teaches that the bus (D

BUS in Figure 1) provides two-way transmission capabilities; hence by definition the bus

(D BUS in Figure 1) in Lilja is a full-duplex bus. Lilja teaches that a data transfer

consists of a first processor sending one sixteen-word packet of data to a second

processor (col. 10, lines 14-16, Lilja), hence Lilja teaches **transmitting a primary**

packet (i.e., a 16-words packet) **from a source node** (i.e., a first processor) **towards a**

destination node (i.e., a second processor) **on a full-duplex bus** (Figure 1 of Lilja)

[Emphasis Added]. Lilja teaches that when a first processor is ready to send, it will

assert the RCVCMD (received command) line and the first word of the packet in its OUT

queue onto the D bust, if the second processor is not ready to receive the packet, it will

assert an NAK signal for two cycles; when the first processor receives the NAK signal it

will abort its current data transfer (col. 10, lines 32-46, Lilja). Hence Lilja teaches

receiving a NAK while the primary packet is being transmitted (since the first word

of the packet in Lilja has been sent when the second processor asserts the NAK signal)

and **aborting the transmission without sending all of the primary packet** [Emphasis Added].

Lilja anticipates claim 2.

Lilja teaches that upon receiving a NAK signal, the bus controller will select another sender (col.10, lines 41-44, Lilja), which is a step of reclaiming bandwidth.

Lilja anticipates claims 4 and 5.

Lilja teaches use of the first word in the packet, containing the address of the second processor and the RCVCMD (receive command), to uniquely select a second processor to receive; and if the second processor is not ready to receive the packet, it will assert an NAK signal for two cycles. Hence Lilja teaches a step for **identifying, during the receiving, that the node cannot successfully accept the primary packet** (col. 10, lines 32-46, Lilja) [Emphasis Added]. The Examiner would like to point out that since the first word of the packet has been sent, Lilja teaches **sending a NAK to the originator of the primary packet concurrently with the receiving step** [Emphasis Added].

Lilja anticipates claim 6. See rejection to claim 1, above for details.

Lilja anticipates claim 8. If the second processor is not ready, then it is unavailable and the processor is a needed resource (col. 10, lines 35-37, Lilja).

Lilja anticipates claim 9.

Lilja teaches **an apparatus** (Processor Module 33 in Figure 2 of Lilja) comprising:

A transceiver (Out Queue 65 and In Queue and 66 in Figure 1 of Lilja comprise a

transceiver since by definition a transceiver is a mechanism for sending and receiving);

A state machine (the Out Queue 65 and In Queue and 66 in Figure 1 of Lilja are state

machines with state diagrams illustrated in Figures 6 and 7) **coupled to the**

transceiver (Out Queue 65 and In Queue and 66 in Figure 1 of Lilja), **the state**

machine to generate a NAK in response to an inability to successfully accept a

primary packet (the Out Queue 65 and In Queue and 66 in Figure 1 of Lilja are state

machines with state diagrams illustrated in Figures 6 and 7 of Lilja capable of

generating a NAK in response to an inability to successfully accept a primary packet,

see col. 10, lines 32-46, Lilja), **the NAK generated concurrently with ongoing arrival**

of the primary packet (col. 10, lines 32-46, Lilja) [Emphasis Added].

Lilja anticipates claim 10. If the second processor is not ready then it is unavailable and

the processor is a needed resource (col. 10, lines 35-37, Lilja).

Lilja anticipates claim 11. See rejection to claim 1, above for details.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lilja,

David J. et al. (US 4888684 A, hereafter referred to as Lilja) in view of IEEE 1394

Standard (IEEE Standard 1394, IEEE Standard for a High Performance Serial Bus).

Lilja, substantially teaches the claimed invention described in claims 1, 2, 4-6 and 8-11

(as rejected above).

However Lilja does not explicitly teach the specific use of a priority based method for

arbitrating priority for bus usage.

The IEEE 1394 Standard in an analogous art, teaches a priority-based method for

arbitrating priority for bus usage (see page 32, IEEE 1394 Standard). The Examiner

would like to point out that Lilja teaches a bus protocol system for inter-processor

communications. Selection of a specific protocol does not deviate form the scope or the intent of the teachings of Lilja.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lilja with the teachings of IEEE 1394 Standard by including use of a priority based method for arbitrating priority for bus usage. This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that use of a priority based method for arbitrating priority for bus usage would provide the opportunity reclaim bandwidth by selecting another sender (col.10, lines 41-44, Lilja) in a IEEE 1394 compliant environment.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lilja, David J. et al. (US 4888684 A, hereafter referred to as Lilja) in view of IEEE 1394 Standard (IEEE Standard 1394, IEEE Standard for a High Performance Serial Bus).

Lilja and the IEEE 1394 Standard teach the additional limitations of claim 7. Pages 38-39 of the IEEE 1394 Standard teach a typical tree topology.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Harris, Craig W. et al. (US 4631666 A) teaches that all of the bit-oriented protocols permit transmission to cease during a frame, provided that an "abort"
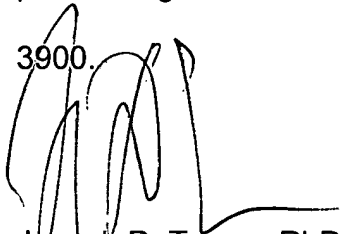
sequence is sent. Grow, Robert M. (US 4459588 A) teaches that if a <u>frame</u> coming out

of a FIFO is not a token (viz., it's a data <u>frame or a frame</u> fragment), address recognition

logic will cause the <u>frame to be aborted</u> if the station was the source of the <u>frame</u>.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Joseph D. Torres whose telephone number is (703)

308-7066. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Albert Decady can be reached on (703) 305-9595. The fax phone numbers

for the organization where this application or proceeding is assigned are (703) 746-7239

for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703) 305-

3900.

ALBERT DECADY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

Joseph D. Torres, PhD
Art Unit 2133
July 15, 2002